



MARSHALL STAR

Serving the Marshall Space Flight Center Community

Aug. 21, 2003

Marshall team's 'Challenge for Success'

by David King

Marshall Center Director

Return to Flight," "Execute Our Programs and Projects" and "Build Our Future" are critical areas — key to Marshall's success and our role in NASA's success. They require a disciplined focus, planning and action.

I began this conversation with you in my first Center Director's Update on July 1, and will share some additional thoughts in these three critical areas as I offer the Marshall team a "Challenge for Success."

Return to Flight

Return to Flight is a goal for NASA, but it is also a lot more than that. It is all

Director's Corner

the things we are doing, and will do, to ensure the safety of future space flight.

First and foremost, Return to Flight is an across-the-Agency effort. We are One NASA. The events leading up to and after the STS-107 tragedy are ours, collectively as an Agency. We are working closely with other field centers in the NASA family to ensure that the External Tank will perform flawlessly in the future. Glenn Research Center, Langley Research Center and other government entities are working tirelessly to "find, fix, and fly."

The new NASA Engineering Safety Center (NESC), under the leadership of



Marshall Imaging Services

King

Gen. Roy Bridges, will provide an independent review and assessment of engineering safety. The Marshall Center is assisting in getting the Engineering Safety

See "***Challenge***" on page 2

NASA'S ion engine runs continuously for almost five years

30,352 hours run-time exceeds design life of 8,000 hours

JPL/Marshall news release

The future is here for spacecraft propulsion and the trouble-free engine performance that every vehicle operator would like to see, achieved by an ion engine running for a record 30,352 hours at NASA's Jet Propulsion Laboratory in Pasadena, Calif.

The engine is a spare of the Deep Space 1 ion engine used during a successful technology demonstration mission that featured a bonus visit to comet Borrelly. It had a design life of 8,000 hours, but researchers kept it running for almost 5 years — from Oct. 5, 1998, to June 26, 2003 — in a rare opportunity to fully observe its performance and wear at different power levels throughout the test. This information is vital to future missions that will use ion propulsion, as well as to current research efforts

See ***Ion*** on page 3



NASA/JPL/Caltech

After running for almost five years, an ion thruster engine is removed from a vacuum chamber at the Jet Propulsion Laboratory in Pasadena, Calif.

Challenge

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Center set up and ready to go.

There will also be personnel changes as we implement Return to Flight. Other NASA centers have recently announced changes in leadership and Marshall will be doing the same. Some changes you already have been informed about and others will take place in the coming weeks. These changes are not about blame or shame. These changes are a realignment and exchange of talent – talent and expertise that will take action on all of the recommendations that will be addressed when the Columbia Accident Investigation Board releases its report.

Although there is anxiety about this report, we are ready. We will methodically work every issue and we will work hard. Return to Flight will happen because each of us is committed to doing our very best to make it happen. Together, we will do it!

Execute Our Programs and Projects

Let's raise the bar in the execution of our programs and projects. Excellence is both a value and a way of life at the Marshall Space Flight Center. We do so many things in an excellent manner in our programs and projects as well as in our support organizations.

We must always be mindful as well of the companion value of Innovation. It is the willingness to innovate that will propel us to really get to know and understand our customers in order to meet, and then exceed, their expectations. I would like each of you to take a moment and jot down the names of your customers. The American taxpayer should be first on your list, followed by the many agencies and organizations we serve, including the Headquarters and field centers of our own NASA. Our customers deserve the best products and services we can provide.

Providing the best products and services will also require changes to our business processes. An Integrated Financial Management Program operating in a full-cost environment will enable us to make business decisions that are more timely and effective. It will provide more complete cost information to program managers for fully informed decision-making. Full-cost, together with better competency management systems, enable us to access data more quickly to help us put talent and expertise where the needs are, rather than using precious energy every cost cycle to define needs and personnel to meet those needs. It also will help us manage institutional costs and infrastructure better –

something that our customers want and deserve. We must always be competitive in spirit and in business.

Build Our Future

We must constantly ask the question, "What kind of future are we building for NASA and Marshall?"

We are laying the foundation for that future now as we return to flight and execute our programs and projects. Doing these two things extremely well is imperative. Marshall has an incredible history of extraordinary work. We must build on what we have and create new and exciting work that meets the agency's needs.

Recently, a reporter from the Florida Tech alumni newspaper interviewed me.

One of her questions was regarding how I feel about my job. I didn't have to think of the answer because it is something I carry inside of me on a daily basis. I told her that it is an incredible experience to come to work for the most unique agency in the federal government. I (we) get to see and work with ordinary people doing extraordinary things. That is what we do. That is NASA. Our work is not an adventure – it is an incredible quest.

My Challenges to You

Find your passion, keep your passion or re-ignite your passion! Just know that it is an insatiable passion for what we do in America's space program that makes us successful!

I have found that a very good way to get excited about what we do every day is to learn from, and teach, each other. In so doing, we will come to know and appreciate what each member of this very talented and diverse workforce brings to the table. We will find that we can build effective teams and make excellent decisions as we discover that it is more important to do the right thing than to always be right. Doing the right things will make us successful in returning to flight, executing our programs and projects, and building our future.

Begin today by defining what you are doing for Return to Flight. Every person at this Center has an important role to play. Find your Return to Flight niche and let's go fly!

——— **David King**
Marshall Center Director

"We will methodically work every issue and we will work hard. Return to Flight will happen because each of us is committed to doing our very best to make it happen."

"Our work is not an adventure – it is an incredible quest."

Ion

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to develop improved ion thrusters.

"Finding new means to explore our solar system — rapidly, safely and with the highest possible return on investment — is a key NASA mission," said Colleen Hartman, head of Solar System Exploration at NASA Headquarters in Washington, D.C. "Robust in-space flight technologies such as ion propulsion are critical to this effort and will pioneer a new generation of discovery among our neighboring worlds."

While the engine had not yet reached the end of its life, the decision was made to terminate the test because near-term NASA missions using ion propulsion needed analysis data that required inspection of the different engine components. In particular, the inspection of the thruster's discharge chamber, where xenon gas is ionized, is critical for mission designers of the upcoming Dawn mission.

Dawn, part of NASA's Discovery Program, will be launched in 2006 to orbit Vesta and Ceres, two of the largest asteroids in the solar system.

"The chamber was in good condition," said John Brophy, JPL's project element manager for the Dawn ion propulsion system. "Most of the components showed wear, but nothing that would have caused near-term failure."

Marc Rayman, former Deep Space 1 project manager, said, "There are many exciting missions into the solar system that would be unaffordable or truly impossible without ion propulsion. This remarkable test shows that the thrusters have the staying power for long duration missions."

Ion engines use xenon, the same gas used in photo flash tubes, plasma televisions and some automobile headlights. Deep Space 1 featured the first use of an ion engine as the primary method of propulsion on a NASA spacecraft. That engine was operated for 16,265 hours, the record for operating any propulsion system in space.

Ion propulsion systems can be very lightweight, because they can run on just a few grams of xenon gas a day. While the thrust exerted by the engine is quite gentle, its fuel efficiency can reduce trip times and lower launch vehicle costs. This makes it an attractive propulsion system choice for future deep space missions.

"The engine remained under vacuum for the entire test, setting a new record in ion engine endurance testing, a true testament to the tremendous effort and skill of the entire team," said Anita Sengupta, staff engineer in JPL's Advanced Propulsion



Photo by Doug Stoffer, NASA/Marshall Center

Odin hosts new equipment showcase

Marshall team members discuss new equipment on display in the Bldg. 4200 lobby last week during the Odin Catalog Fair. From left are Russ Pond, Joel Laird, Cassandra Pitts, Vicki Roberts and Steve Lambing.

Technology Group. "This unique scientific opportunity benefits current and potential programs."

"The dedicated work of NASA's Solar Electric Technology Application Readiness test team, led by JPL, continues to exemplify a commitment to engineering excellence," said Les Johnson, who leads the In-Space Propulsion Program at the Marshall Center. "This work, along with significant contributions from NASA's Glenn Research Center in Cleveland, will take NASA's space exploration to the next level."

NASA's next-generation ion propulsion efforts are led by the In-Space Propulsion Program, managed by the Office of Space Science at NASA Headquarters and implemented by the Marshall Center. The program seeks to develop advanced propulsion technologies that will help near and mid-term NASA science missions by significantly reducing cost, mass or travel times.

Retiree Dinner tickets on sale

Tickets for the 17th annual Retiree Dinner are on sale. The event is at 5:30 p.m. Sept. 9 at the Von Braun Center. Tickets cost \$16 per person and include a social, dinner and entertainment. Meal choices are prime rib or honey almond chicken. Marshall team members can purchase tickets from administrative officers. For more information, call Edwina Bressette, retirement coordinator, in Marshall's Human Resources Department at 544-8115.

Obituaries

Camilo Garza Sr., 49, of Huntsville, died Saturday, Aug. 16. Funeral services were held Wednesday at Berryhill Funeral Home with John Stone officiating. Burial was in Maple Hill Cemetery.

Garza was an employee of Computer Sciences Corp. at the Marshall Center. A native of Texas, he moved to Huntsville in 1994. He was retired from the U.S. Army and held a bachelor's degree in human resources.

Garza is survived by two sons, Michael Garza of Washington D.C. and Camilo Garza Jr. of North Carolina; two daughters, Uviana Montoya of Dallas and Mandi Garza of Huntsville; one brother; six sisters; and six grandchildren.

William Gary Smith, 66, of Cowan, Tenn., died June 15.

Funeral services were directed by Moore-Cortner Funeral Home.

Smith was born in Franklin County, Tenn. He was the son of the late Bill Smith and Oshie Cleek Smith. He was retired from the Marshall Center where he worked as a presentation specialist. He was a member of the Church of Christ and served in the U.S. Air Force.

Smith is survived by his wife, Gwyn Smith; four sons, Tracy Howell Smith of Plano, Texas, Gary Todd Smith of Seattle, William Timothy Smith of Tenecula, Texas, and James Tony Smith of Estil Springs, Tenn.; one daughter, Torrie Lynn Tucker of Belvidere, Tenn.; 11 grandchildren; and one great-grandchild.

AIAA honors two Marshall team members

Two Marshall team members recently were honored during the American Institute of Aeronautics and Astronautics Alabama-Mississippi Section 51st annual Installation and Awards Dinner in Huntsville.

Robert L. Sackheim, the Marshall Center's assistant director and chief engineer for space propulsion, received the 2002-2003 Holger Toftoy Award. The award recognizes outstanding technical management in the fields of aeronautics and astronautics.

Sackheim has been awarded numerous honors throughout his career and has authored more than 150 technical papers.



Sackheim

He holds eight patents for spacecraft and launch vehicle propulsion as well as for control systems technology. He joined the Marshall Center in 1999 after 35 years in various technical and management positions with TRW Space and Electronics Group.

Dr. Paul Munafo, manager of Marshall's Materials, Processes and Manufacturing Department, received the 2002-2003 Hermann Oberth Award. The award is for outstanding individual scientific achievement in the fields of astronautics and space sciences.



Munafo

Munafo also has been honored with various awards during his career. He joined the Marshall Center in 1975. He recently received the NASA Outstanding Leadership Medal from NASA Administrator Sean O'Keefe recognizing exceptional dedication and commitment to the Agency's highest standards of excellence.

Job Announcements

MS03N0169, AST, Liquid Propulsion Systems. GS-0861-13, Space Transportation Directorate, Subsystem & Component Development Department. Closes Aug. 27. Contact: Jim Bramblett at 544-3398.

MS03N0167, Information Technology Specialist (INFOSEC). GS-2210-14, Center Operations Directorate, Protective Services Department. Closes Aug. 27. Contact: Dana Blaine at 544-7514.

MS03C0173, AST, Aerospace Flight Systems. GS-0861-13, Second Generation RLV Program Office, Flight Demonstra-

tions Office. Closes Aug. 28. Contact: Patricia Caraway at 544-7755.

MS03C0174, Information Technology Specialist. GS-2210-13, Engineering Directorate, Structures, Mechanics and Thermal Design. Closes Aug. 29. Contact: Kevin Plank at 961-0157.

MS03C0176, Property Management Specialist. GS-1101-05, Center Operations Directorate, Logistics Services Department. Closes Sept. 2. Contact: Dana Blaine at 544-7514.



Photo by Doug Stoffer, NASA/Marshall Center

Teaching Russian rocket design

Professor Vladimir Bazarov, head of the Combustion Dynamics Division at Moscow Aviation Institute School of Rocket Engines, illustrates a design during a lecture in Huntsville on Russian liquid rocket engine element design. Bazarov, an academican at the Russian Academy of Cosmonautics, is an internationally known expert in the design of gas-liquid injectors. Marshall's Space Transportation Directorate and the Next Generation Launch Technology Program sponsored Bazarov's lecture in July at the University of Alabama in Huntsville.

Center Announcements

Chandra X-ray Observatory Symposium set for September

The Chandra X-ray Observatory Program will host a three-day symposium Sept. 16-18 at the Huntsville Marriott. For more information, go to <http://mi.msfc.nasa.gov/chandra/index.html> or call 544-5468 or 544-0570.

HOPE Place golf tournament will be Saturday

The HOPE Place Classic golf tournament to benefit victims of domestic violence will be at 8 a.m. Saturday at both the Highland and River golf courses at Hampton Cove. Cost is \$150 per player for the four-person scramble tournament or \$600 per team. For more information, call Sharon Tyson at 885-1739.

SEE Program to host Spacecraft Charging Technology Conference

NASA's Space Environments & Effects Program will host the eighth Spacecraft Charging Technology Conference Oct. 20-24 in Huntsville. The conference is an international forum to present and discuss spacecraft charging issues and mitigation techniques. Registration is limited. For more information, go to <http://see.msfc.nasa.gov/sctc>.

Spacecraft Preliminary Design course set for September

A three-day Spacecraft Preliminary Design course will be taught Sept. 15-17 by Dr. Wiley Laron and Tom Sarafin at the Marshall Center. Marshall team members interested in attending should submit a Form 59 to CD20 by Aug. 27. For more information, go to www.instarengineering.com/uss.cfm or call 544-1164.

Rex Geveden to speak at Marshall Association luncheon

Marshall Deputy Director Rex Geveden will speak at the Marshall Association's monthly luncheon at 11:30 a.m. Aug. 28 at the Center Activities Bldg. 4316. Cost is \$9, payable at the door, but reservations are required. For reservations,

call Cliff Bailey at 544-5482.

Women's Equality Day program will be Tuesday

The Women's Equality Day program will be at 10 a.m. Tuesday in the Bob Jones Auditorium at the Sparkman Center on Redstone Arsenal. Shelley Thomas of the Office of Personnel Management will speak. The Marshall Center's Outstanding Women Achievers also will be recognized. This year they are Dawn C. Stanley in the Professional category; Ela M. Washington in the Administrative category; Barbara V. Thurman in the Clerical category; and Ann R. McNair as the Federal Women's Program Supervisor of the Year for 2003.

Vacation specials available for Marshall team members

Executive Tour and Travel Services Inc., is offering \$99 vacation getaways to more than 20 destinations for Marshall civil servants, retirees, contractors and their families. The price includes three days and two nights hotel accommodation for two adults and up to two children age 12 or under. Hotel tax is not included in the price. A deposit of \$99 plus \$6 for shipping and handling must be made by Aug. 28. Travel dates are good through August 2004. For more information, call Candy Kelley at 544-7565 or pick up a flyer at the Space Shop in Bldg. 4203.

Shuttle Buddies meet Monday

The Shuttle Buddies will meet at 8:30 a.m. Monday at Shoney's restaurant on University Drive at Memorial Parkway. For more information, call Deemer Self at 881-7757.

WebTADS has new password reminder

WebTADS has a new password reminder. If users forget their password, they no longer have to wait on an e-mail. On the WebTADS login screen, when users click on the "Click here if you forgot your password" link, they will be taken to a screen requiring three pieces of

confirmation information. After clicking on "Submit," a user's password will be immediately displayed on their screen. A link then is available to take the user directly back to the login server.

Flag football teams organizing

Men's and Women's flag football season will be starting soon. If you are interested in starting a team, call Dayna Schoffstoll at 544-4123 or Kathryn Kynard at 544-7439.

Marshall Center Retirement Planning Seminar schedules set

The annual Marshall Center Retirement Planning Seminar will be Tuesday-Thursday, Aug. 28. Registration is not required, but administrative officers should be notified of attendance. For times and schedules, see "Inside Marshall."

LifeSouth monthly blood drives to begin in September

Beginning Sept. 12, the Huntsville LifeSouth Community Blood Center will be added to the Marshall Blood Drive Program. LifeSouth's monthly blood drives will be on the second Friday of each month from 8 a.m.-1:30 p.m. at the Center Activities Bldg. 4316. The American Red Cross will continue to hold its blood drive at Marshall on the third Friday of each month. For more information, call Rick Wallace at 544-8885.

Technology Exposition will be Wednesday

The Marshall Center Technology Exposition will be 10 a.m.-2 p.m. Wednesday in Bldg. 4203, conference room 1201 adjacent to the cafeteria. Exhibitors will demonstrate the latest in knowledge management solutions, data storage, embedded computer products, software and hardware, systems integration, IT solutions, disaster recovery, Web services and more. The event is sponsored by the Center Operations Directorate and the Office of the Chief Information Officer.

Classified Ads

Miscellaneous

- ★ Corner Reflex speaker cabinet w/15" JBL extended range speaker, \$100. 355-8589
- ★ Antique wooden chicken coop converted to coffee table, \$275. 653-4240
- ★ 1989 Kawasaki 750 Vulcan motorcycle, 11K miles, custom paint, saddle bags, garage kept, \$2,500. 256-828-7013
- ★ Executive style desk, solid wood, mahogany finish, \$250; GE range/oven drop-in, \$300. 881-3527
- ★ Waterbed, queen, 6-drawers, sheets, accessories, \$100. 256-655-7215
- ★ 1990 Lowe Pontoon boat, 24', w/48HP Evinrude motor, \$4,750. 256-734-7200
- ★ John Deere riding lawn mower, 14HP, 38" cut, \$1,200. 256-737-9513
- ★ Magellan Meridian color waterproof handheld GPS receiver w/16 color LCD and 16MB database, \$300. 527-0545
- ★ Bear Whitetail EL compound bow, 60 lb. pull, 30" draw w/sights, quiver, hard case, \$200. 851-8085
- ★ BMW E46 manual UUC Motorworks transmission bushings/tranny mount enforcer kit, \$70. 922-1424
- ★ Interior doors, various sizes, \$40 each. 656-2965/656-5552
- ★ Antique Queen Anne table, 54" round, Cherry, w/ four chairs; Antique wicker rocking chair. 881-4418
- ★ Prom/evening gown, purple w/gold, size 6, \$100; Semi-formal dress, pink satin, size 8, \$25. 509-6590
- ★ Mizuno TZoid T3 Titanium driver, 8.5-degree, graphite shaft, \$90. 651-1085
- ★ Twin-size daybed w/mattress, bedspread, matching cushion, \$100. 533-4824
- ★ Two tickets, Huntsville Symphony Orchestra performance, Sept. 20, Center Seats, Row Q, \$42 each. 256-722-7927
- ★ Old pie safe, solid lower door, glass upper door, needs work, best offer. 539-1316
- ★ Custom fit cargo liner for Mercedes ML320/430/500, gray, \$40. 256-614-0048
- ★ Alabama vs. South Florida tickets, seats in East upper deck, four at \$50 each. 655-3065
- ★ Honda Elite 50 SR scooter, 166 miles, \$975. 837-7916
- ★ Men's bicycle, Diamond Back, Sorrento, includes car carrier, \$200. 355-3227/Decatur
- ★ VHS movies, Action, Romance, Disney Animated Classics, Disney Classics Collection (Freaky Friday/20,000 Leagues), 830-1844
- ★ Swingset, \$40; Barcalounger recliner, off-white, \$250. 881-8674
- ★ Dirt bikes: 1988 Yamaha XT125, \$450; 1986 Yamaha TT225, \$650. 772-1843
- ★ WITEX SpeedyLoc silent no-adhesive laminate

New classified ad guidelines

- ☛ Classified ads due no later than noon Mondays, limit 15 words, including home phone number of seller. Only one phone number allowed per ad. Ads are subject to editing for length and clarity.
- ☛ Civil servants, contractors and Marshall retirees may run ads at no charge. No ads for real estate, timeshares or for goods and services manufactured or provided as a home occupation or business.
- ☛ Ads may be submitted by e-mail to intercom@msfc.nasa.gov. Electronic forms for onsite Marshall team members are on "Inside Marshall." Go to "Employee Resources" to

flooring, foam backing attached, 150 sq. ft., \$225. 256-534-9780

- ★ Flute, Gemeinhardt, Model 30, \$500. 881-1497
- ★ New 64Mb AGP video card; \$39; Used 32Mb video card, \$16. 489-0136
- ★ Clarinet, wood buffet, Model E11, accessories included, used 1 yr., \$400. 230-0888
- ★ Boys/Girls clothes, sizes 18M-5T, tops, \$2, pants/jeans/2-piece sets, \$3; other items. 655-2055
- ★ Ludwig snare drum w/Percussion Plus stand. 1970s vintage. No sticks, no case. \$95. 306-0700

Decatur

Vehicles

- ★ 2000 Mazda 626, 4-door, 41K miles, silver w/gray interior, PS/PB/PW/PL/CD, cassette, a/c, \$9,950. 256-230-0806
- ★ 2001 VW Jetta, 1.8 Turbo, Wolfsburg package, alarm system, 31K, \$13,900. 797-1113
- ★ 1995 Ford Ranger, extended cab, 4-cyl., 5-speed, 154K miles, A/C, CD, chrome wheels, \$3,450. 828-3887
- ★ 1996 Chrysler Town & Country, white, 115K miles, 4-door, gray cloth interior, \$6,200. 256-891-1073
- ★ 1956 Chevrolet BelAir, 6-cylinder, straight shift, new parts, \$6,000. 881-3353
- ★ 1969 Chevy Caprice, garage kept, all-original, power seats/windows, a/c, extras, \$7,500. 883-6416
- ★ 2000 Sunfire Pontiac, 2-door, black, sunroof, CD, 70K miles, \$7,000. 256-335-5896
- ★ 1995 Ford Explorer, Eddie Bauer, leather, ABS, alloy, 113K miles, CD/Alpine, privacy glass, \$5,985. 880-6563
- ★ 1999 Plymouth Grand Voyager, bench seats, green, 90K miles, one-owner, \$6,000. 325-6000

find the form, or to the "News Sources" tab, click "MSFC News" and "Submit Marshall Star Classified Ad."

- ☛ Classified ads can be mailed to: Marshall Internal Relations and Communications Department, CD40, Bldg. 4200, Room 101, Marshall Space Flight Center 35812
- ☛ Organization codes and work phone numbers should be included for clarification. Retirees should include their former org code or depart. name.
- ☛ Ads must be resubmitted weekly. Ads cannot be submitted by phone.
- ☛ For more information, call Janie Crawford at 544-0514.

- ★ 1995 Dodge Caravan SE, automatic, 162K miles, blue with gray interior, V6, \$2,500. 256-880-3337
- ★ 1993 Mustang Convertible, 4 cylinder, auto, \$3,200. 883-1211
- ★ 1991 Mazda Miata, white/black top, well maintained, 120K miles, Kosei II rims, \$4,700. 656-0461
- ★ 1995 Ford Explorer, 2WD, 4-door, V6, auto, Michelin tires, \$4,900. 683-9364
- ★ 2002 Ford Explorer, loaded, Eddie Bauer, white, 28K miles, \$21,900. 532-6378/536-8692
- ★ 1997 Nissan Maxima SE sedan, 82K miles, 4-door, pearl, alloy rims, sunroof, automatic, \$9,690. 881-8674
- ★ 2001 Nissan truck, King-Cab XE, automatic, chrome rails, AM/FM/CD, bedliner, keyless entry. 881-9084

Wanted

- ★ Football tickets for Auburn vs. Georgia Tech. 256-498-3672
- ★ Good quality weight bench and/or weight set in good condition. 772-0004
- ★ "Saturn Illustrated Chronology," (MSFC MHR-5) in good condition. 922-1424
- ★ Tickets to Auburn vs. Georgia Tech football game. 489-7287
- ★ Carpool with anyone from Murfreesboro, TN. 544-3578
- ★ Equipment for wooden play set: slide, swings, handles, etc. 776-1652

Found

- ★ Ladies ring, vicinity of Bldg. 4250. Call 544-7845 to identify/claim

MARSHALL STAR

Vol. 43/No. 47

Marshall Space Flight Center, Alabama 35812
(256) 544-0030
<http://www1.msfc.nasa.gov>

The Marshall Star is published every Thursday by the Internal Relations and Communications Department at the George C. Marshall Space Flight Center, National Aeronautics and Space Administration. Contributions should be submitted no later than Monday noon to the Marshall Internal Relations and Communications Department (CD40), Bldg. 4200, room 101. Submissions should be written legibly and include the originator's name. Send electronic mail submissions to: intercom@msfc.nasa.gov The Marshall Star does not publish commercial advertising of any kind.

Manager of Internal Relations
and Communications — Steven Durham
Editor — Jonathan Baggs

U.S. Government Printing Office 2002-533-083-60067

Permit No. G-27
NASA
Postage & Fees PAID
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